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| 10/625,698      | 07/24/2003  | Hideki Agari         | R2180.0163/P163     | 9943             |

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| EXAMINER |
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STERRETT, JEFFREY L

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| ART UNIT | PAPER NUMBER |
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2838

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/625,698

Applicant(s)

AGARI ET AL.

Examiner

Jeffrey L. Sterrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/24/03 &amp; 12/23/04</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

2. Claims 4-15 are objected to because of the following informalities.

Claims 4-15 are vague and indefinite since in lines 3-5, 8, 9, and 12 "the second reference voltage", "the second reference voltage generator", and "the second reference voltage divider" all lack proper antecedent basis because no first reference voltage or first reference voltage generator or first reference voltage divider has been recited in the chain of dependency.

Claim 5 is likewise vague and indefinite since in lines 3-5 and 8-10 "the third reference voltage", "the third reference voltage generator", and "the third reference voltage divider" all lack proper antecedent basis because no first and second reference voltages or first reference voltage generators or first reference voltage dividers have been recited in the chain of dependency.

Appropriate correction is required.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 5, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Manabe et al (US 6,236,194).

Manabe et al discloses a power supply apparatus (Figure 2) comprising a first power supply circuit (29a) and a second power supply circuit (29b) controlled to be turned on and off by switching logic (39) wherein the first power supply circuit detects

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the power supply apparatus output voltage (via R1 and R2) and provides the first voltage when the second power supply circuit is inactivated.

5. Claims 1, 2, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Geyer et al (US 6,249,110).

Geyer et al discloses a power supply apparatus comprising a first power supply circuit (LR) and a second power supply circuit (SR) controlled to be turned on and off (for example see lines 3-7 of column 2) wherein the first power supply circuit detects the power supply apparatus output voltage (linear regulators sensing the output voltage were old and known expedients in the art at the time of the invention and would have been considered as regulator LR as noted in lines 60-63 of column 2 by one of ordinary skill) and provides the first voltage when the second power supply circuit is inactivated (for example see lines 3-7 of column 2).

6. Claims 1 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirake et al (US 2002/0041178).

Hirake et al discloses a power supply apparatus comprising a first power supply circuit (130) and a second power supply circuit (120) controlled to be turned on and off by control unit (113) wherein the first power supply circuit detects the power supply apparatus output voltage (see the feedback line to operational amplifier 131) and provides the first voltage when the second power supply circuit is inactivated.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirake et al in view of Geyer et al.

Geyer et al discloses a power supply apparatus as explained above and as recited by claim 4 except for specifying the composition of the second power supply circuit. Official Notice is taken that switching regulators comprising a topology of reference voltage generator, an output voltage divider, a switching transistor, an operational amplifier, a control circuit, and a smoothing circuit were old and known expedients in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a switching regulator with an old and known topology as the generically disclosed switching regulator SR in the power supply apparatus of Geyer et al since Geyer et al left the selection of a specific switching regulator up to the reader of his patent.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geyer et al in view of Hirake et al.

Geyer et al discloses a power supply apparatus as explained above and as recited by claims 6 and 7 except for specifying that certain circuit elements are integrated together. Hirake et al discloses that integrating circuit a select group of elements of a power supply apparatus was an old and known expedient in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have integrated a select group of elements of the power supply

apparatus of Geyer et al as disclosed by Hirake et al in order to minimize the size of the power supply apparatus.

10. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geyer et al in view of Hirake et al.

Geyer et al discloses a power supply apparatus as explained above and as recited by claims 8 and 9 except for specifying that the smoothing circuit includes a transistor operated as a flywheel diode. Hirake et al discloses as old and known in the art at the time of the invention a smoothing circuit including a flywheel diode (D1) and additionally official notice is taken that operating a transistor as a diode was an old and known expedient in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the power supply apparatus of Geyer et al by including a flywheel diode in the smoothing circuit of the switching regulator in order to derive a desired filter characteristic as disclosed by Hirake et al and it would have been further obvious to said skilled artisan to have also utilized a transistor operated as a diode as the flywheel diode since doing so would provide control over the operation of the flywheel action.

11. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geyer et al in view of Manabe et al.

Geyer et al discloses a power supply apparatus as explained above and as recited by claims 10 and 11 except for utilizing a switching element between the outputs of the first and second power supply circuits. Manabe et al discloses as old and known in the art at the time of the invention utilizing a switching element (17) between the

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outputs of a first (5a) and second (5b) power supply circuits and additionally official notice is taken that utilizing a forward connected diode on the output of one of the power supply circuits to prevent reverse current flow was an old and known expedient in the art at the time of the invention as such a switching element. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the power supply apparatus of Geyer et al by including a switching element between the outputs of the first and second power supply circuits in order to select one of the two power supply circuit outputs as disclosed by Manabe et al and it would have been further obvious to said skilled artisan to have also utilized a diode as a simple implementation of the switching element to prevent reverse current flow.

12. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geyer et al in view of Manabe et al as applied to claim 10 above and further in view of Hirake et al.

Geyer et al and Manabe et al collectively disclose a power supply apparatus as explained above and as recited by claims 12-15 except for specifying that certain circuit elements are integrated together. Hirake et al discloses that integrating circuit a select group of elements of a power supply apparatus was an old and known expedient in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to have integrated a select group of elements of the power supply apparatus collectively disclosed by Geyer et al and Manabe et al as disclosed by Hirake et al in order to minimize the size of the power supply apparatus.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

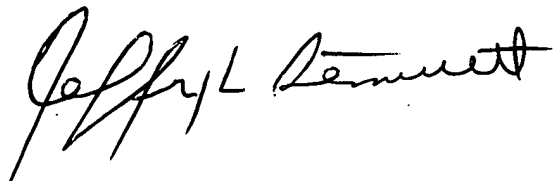
Sinclair (US 4,502,152) is cite to show another patent document in the patent family of GB 2,027,957.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Sterrett whose telephone number is (571) 272-2085. The examiner can normally be reached on Monday-Thursday & 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey L. Sterrett  
Primary Examiner  
Art Unit 2838

A handwritten signature in black ink, appearing to read "Jeffrey L. Sterrett", is written over the typed name and title.